

Assessment and Characterization of Transformation Products formed during Water Treatment Processes

Smithers Environmental Fate scientists have developed a suite of tests that meet the requirements for the ECHA/EFSA “Guidance document on the impact of water treatment processes on residues of active substances or their metabolites in water abstracted for the production of drinking water.”



Impact of Water Treatment Processes

In response to the ECHA/EFSA “Guidance document on the impact of water treatment processes on residues of active substances or their metabolites in water abstracted for the production of drinking water,” (July 2023), Smithers Environmental Fate scientists have developed a suite of tests that meet the requirements for this latest regulatory need. Testing is required, starting April 1, 2026, for active substances in Biocides and Plant Protection Products. Our study designs adhere to the CropLife Europe harmonized approach, ensuring alignment with current best practices and scientific rigor throughout the multi-step test process.

The treatment procedures include:

- Chlorination with hypochlorite or monochloramine
- Oxidation with chlorine dioxide
- Combined approach (oxidation + chlorination)
- Ozonation
- UV disinfection
- Biodegradation using sand filtration

Each procedure is performed at low and high concentrations and can be conducted using ^{14}C -labeled or non-radiolabeled test substance. Using a validated analytical method (SANTE/2020/12830 where applicable), we assess:

- The degradation of the active substance
- The presence and identity of transformation products (TPs)

Any TPs formed at $\geq 0.075 \mu\text{g/L}$ require structural elucidation and accurate quantitation with an analytical standard before proceeding with further assessment as laid out in the guidance.

Our scientists actively monitor evolving regulatory perspectives to ensure our services meet the latest guidance. Whether you're in the early planning stages, require a non-GLP screen, or are preparing for a full assessment, contact us to discuss the next steps in planning your testing strategy.

Learn more about our offerings at www.smithers.com or contact us to discuss your testing needs.

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